## ABSTRACT

A sulfenyl compound represented by the general formula: R-S-X (I) (wherein R represents an organic group baving at least one constituent element labeled with an isotope, and X represents a leaving group); a labeling reagent comprising it; and a method of analyzing peptide using the labeling reagent. Preferably the organic group R comprises C, H, and N, and optionally O and/or P as the constituent element, and the isotope is a stable isotope selected from the group consisting of <sup>2</sup>H, <sup>13</sup>C, <sup>15</sup>N, <sup>17</sup>O, and <sup>18</sup>O.